

09/518763

**WEST**Search results  
for Paper # 4

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Search Form

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Preferences

Your wildcard search against 2000 terms has yielded the results below

Search for additional matches among the next 2000 terms

starting with: CELL\$(CELLOSOLVE-1.0).P27-P83,P22-P26,P19-P21,P1-P17,P18-P18.

**Search Results -**

Terms	Documents
l6 and stab\$ adj5 cell\$	6

**Database:**

☐ US Patents Full-Text Database  
☐ JPO Abstracts Database  
☐ EPO Abstracts Database  
☐ Derwent World Patents Index  
☐ IBM Technical Disclosure Bulletins

Refine Search:

l6 and stab\$ adj5 cell\$

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**Search History****Today's Date: 8/22/2000**

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
USPT,JPAB,EPAB,DWPI,TDBD	l6 and stab\$ adj5 cell\$	6	<u>L8</u>
USPT,JPAB,EPAB,DWPI,TDBD	l6 and stab\$ adj5 cell\$ adj5 line\$	0	<u>L7</u>
USPT,JPAB,EPAB,DWPI,TDBD	apoptosis adj5 inhibit\$	530	<u>L6</u>
USPT,JPAB,EPAB,DWPI,TDBD	l2 and stab\$ adj5 transf\$	0	<u>L5</u>
USPT,JPAB,EPAB,DWPI,TDBD	l2 and stab\$ adj5 cell	1	<u>L4</u>
USPT,JPAB,EPAB,DWPI,TDBD	l2 and stab\$ adj5 cell adj5 line\$	0	<u>L3</u>
USPT,JPAB,EPAB,DWPI,TDBD	apoptosis adj5 suppress\$	103	<u>L2</u>
USPT,JPAB,EPAB,DWPI,TDBD	apoptosis	3504	<u>L1</u>

**WEST**

Your wildcard search against 2000 terms has yielded the results below

Search for additional matches among the next 2000 terms

Generate Collection

Search Results - Record(s) 1 through 6 of 6 returned.

☐ 1. Document ID: US 6093795 A

L8: Entry 1 of 6

File: USPT

Jul 25, 2000

US-PAT-NO: 6093795

DOCUMENT-IDENTIFIER: US 6093795 A

TITLE: Isolated human Prt1 protein

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 2. Document ID: US 6015710 A

L8: Entry 2 of 6

File: USPT

Jan 18, 2000

US-PAT-NO: 6015710

DOCUMENT-IDENTIFIER: US 6015710 A

TITLE: Modulation of mammalian telomerase by peptide nucleic acids

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 3. Document ID: US 6010878 A

L8: Entry 3 of 6

File: USPT

Jan 4, 2000

US-PAT-NO: 6010878

DOCUMENT-IDENTIFIER: US 6010878 A

TITLE: Interleukin-1 .beta. converting enzyme like apoptotic protease-6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 4. Document ID: US 6008042 A

L8: Entry 4 of 6

File: USPT

Dec 28, 1999

US-PAT-NO: 6008042

DOCUMENT-IDENTIFIER: US 6008042 A

TITLE: Interleukin-1 beta converting enzyme like apoptotic protease-7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 5. Document ID: US 6004579 A

L8: Entry 5 of 6

File: USPT

Dec 21, 1999

US-PAT-NO: 6004579

DOCUMENT-IDENTIFIER: US 6004579 A

TITLE: Compositions which inhibit apoptosis, methods of making the compositions and uses thereof

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

☐ 6. Document ID: AU 9889160 A, WO 9910509 A1

L8: Entry 6 of 6

File: DWPI

Mar 16, 1999

DERWENT-ACC-NO: 1999-190624

DERWENT-WEEK: 199930

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TITLE: Method for enhancing transcript RNA stability in cells - by contacting cells with a polynucleotide which inhibits transcript RNA degradation

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Clip Img	Image
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Generate Collection

Terms	Documents
16 and stab\$ adj5 cell\$	6

Display

100 Documents, starting with Document:

6

Display Format:

TI

Change Format

ILIGHT set on as ''

**HILIGHT** set on as ''

? begin 5,6,55,154,155,156,312,399,biotech,biosci

Set	Items	Description
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? s apoptosis and stabl? and cell?		
Processing		
Processing		
Processing		
Processed	10 of	36 files ...
Processing		
Processed	20 of	36 files ...
Processing		
Completed processing all files		
	332468	APOPTOSIS
	1274359	STABL?
	14560731	CELL?
S1	7622	APOPTOSIS AND STABL? AND CELL?
?		
PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES		
? s s1 and stably transf?		

	7622	S1
	85	STABLY TRANSF?
S2	0	S1 AND STABLY TRANSF?
? s s1 and stably and transf?		
Processing		
Processed	10 of	36 files ...
Processing		
Completed processing all files		
	7622	S1
	82637	STABLY
	5584734	TRANSF?
S3	2376	S1 AND STABLY AND TRANSF?
? s s3 and p35		

	2376	S3
	6089	P35
S4	65	S3 AND P35
? rd s4		
...examined 50 records (50)		
...completed examining records		
S5	20	RD S4 (unique items)
? d s5/3/1-20		

Display 5/3/1 (Item 1 from file: 5).

DIALOG(R)File 5: Biossis Previews(R)

(c) 2000 BIOSIS. All rts. reserv.

12376373 BIOSIS NO.: 200000129875

Part I. Bcl-2 and bcl-xL limit **apoptosis** upon infection with alphavirus vectors.

AUTHOR: Mastrangelo Alison J; Hardwick J Marie; Bex Francoise; Betenbaugh Michael J(a)

AUTHOR ADDRESS: (a)Department of Chemical Engineering, The Johns Hopkins University, 3400 North Charles Street, Baltimore, MD, 21218\*\*USA

2000

JOURNAL: Biotechnology and Bioengineering. 67 (5):p544-554 March 5, 2000

ISSN: 0006-3592

DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English  
SUMMARY LANGUAGE: English

- end of record -

?

Display 5/3/2 (Item 2 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.

11840045 BIOSIS NO.: 199900086154  
Baculovirus p33<sup>1</sup> binds human p53 and enhances p53-mediated **apoptosis**.  
AUTHOR: Prikhod'ko Grigori G; Wang Yan; Freulich Ella; Prives Carol; Miller  
Lois K(a)  
AUTHOR ADDRESS: (a) Dep. Entomol., 413 Biol. Sci., Univ. Georgia, Athens, GA  
30602\*\*USA  
1999  
JOURNAL: Journal of Virology 73 (2):p1227-1234 Feb., 1999  
ISSN: 0022-538X  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

- end of record -

?

Display 5/3/3 (Item 3 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.

11674779 BIOSIS NO.: 199800456510  
**Apoptosis** resulting from superinfection of Heliothis zea virus 1 is  
inhibited by **p35** and is not required for virus interference.  
AUTHOR: Lee Jin-Ching; Chao Yu-Chan(a)  
AUTHOR ADDRESS: (a) Inst. Molecular Biol., Academia Sinica, Nankang, Taipei  
115\*\*Taiwan  
1998  
JOURNAL: Journal of General Virology 79 (9):p2293-2300 Sept., 1998  
ISSN: 0022-1317  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

- end of record -

? d s5/9/3

Display 5/9/3 (Item 3 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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11674779 BIOSIS NO.: 199800456510  
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AUTHOR: Lee Jin-Ching; Chao Yu-Chan(a)  
AUTHOR ADDRESS: (a) Inst. Molecular Biol., Academia Sinica, Nankang, Taipei  
115\*\*Taiwan  
1998  
JOURNAL: Journal of General Virology 79 (9):p2293-2300 Sept., 1998  
ISSN: 0022-1317  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Superinfection of Spodoptera frugiperda insect **cells** that

are persistently infected with Heliothis zea 1 (Hz-1) virus induces general cellular apoptosis and subsequently results

-more-

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Display 5/9/3 (Item 3 from file: 5)  
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homologous virus interference. Since **apoptosis** correlates closely with both a significant decrease in yield of virus progeny and expansion of virus infection among **cells**, further experiments were designed to verify the direct association of **apoptosis** with homologous interference. It was found that superinfection-induced **apoptosis** can be efficiently blocked by the **stable transfection** of **p35** into **cells** before or after the establishment of persistent virus infection. However, persistently infected **cells** are still strongly resistant to the challenge of Hz-1 virus, indicating that the induction of **apoptosis** is not essential for the resulting homologous Hz-1 virus interference. Replication and transcription of viral genomes are greatly retarded upon Hz-1 virus superinfection of persistently infected **cells**, whether **stably transfected** with **p35** or not, suggesting that upon superinfection, the decreasing yield of virus progeny in these persistently infected **cells** is caused by a blockage early after virus infection.

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Display 5/9/3 (Item 3 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.  
DESCRIPTORS:

MAJOR CONCEPTS: Infection; Physiology; Virology  
BIOSYSTEMATIC NAMES: Lepidoptera--Insecta, Arthropoda, Invertebrata, Animalia; Viruses--Microorganisms  
ORGANISMS: Heliothis-zea virus 1 (Viruses)--pathogen; Spodoptera-frugiperda (Lepidoptera)--host, insect **cells**, superinfection  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Arthropods; Insects; Invertebrates; Microorganisms; Viruses  
DISEASES: viral infection--viral disease  
CHEMICALS & BIOCHEMICALS: **p35--transfection**  
MISCELLANEOUS TERMS: **apoptosis**--superinfection-induced; homologous virus interference; viral challenge; viral genome--replication, transcription

CONCEPT CODES:

33502 Virology-General; Methods  
12002 Physiology, General and Miscellaneous-General

-more-

? d s5/3/4-20

Display 5/3/4 (Item 4 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.

11472344 BIOSIS NO.: 199800253676

The baculovirus anti-apoptotic **p35** protein promotes **transformation** of mouse embryo fibroblasts.

AUTHOR: Resnicoff Mariana(a); Valentinis Barbara; Herbert Debroski; Abraham David; Friesen Paul D; Alnemri Emad S; Baserga Renato

AUTHOR ADDRESS: (a)Kimmel Cancer Inst., Bluemle Life Sci. Build., Room 606, 233 S. Tenth St., Philadelphia, PA 1910\*\*USA

1998

JOURNAL: Journal of Biological Chemistry 273 (17):p10376-10380 April 24,

1998  
ISSN: 0021-9258  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

- end of record -

? d s5/9/4

Display 5/9/4 (Item 4 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.

11472344 BIOSIS NO.: 199800253676

The baculovirus anti-apoptotic **p35** protein promotes  
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AUTHOR: Resnicoff Mariana(a); Valentinis Barbara; Herbert Debroski; Abraham  
David; Friesen Paul D; Alnemri Emad S; Baserga Renato

AUTHOR ADDRESS: (a)Kimmel Cancer Inst., Bluemle Life Sci. Build., Room 606,  
233 S. Tenth St., Philadelphia, PA 1910\*\*USA

1998

JOURNAL: Journal of Biological Chemistry 273 (17):p10376-10380 April 24,  
1998

ISSN: 0021-9258

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: The baculovirus **p35** protein is a potent inhibitor of

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Display 5/9/4 (Item 4 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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programmed **cell** death induced by a variety of stimuli in insects,  
nematodes, and mammalian **cell** lines. The broad ability of **p35**  
in preventing **apoptosis** has led us to investigate its effect on  
mouse embryo fibroblasts in vitro and in vivo. For this purpose, we have  
used R- **cells** (3T3-like fibroblasts derived from mouse embryos with  
a targeted disruption of the insulin-like growth factor I receptor  
(IGF-IR) genes) and R508 **cells** (derived from R- and with 15 X 103  
IGF-IRs per **cell**). Both **cell** lines grow normally in  
monolayer, but they do not form colonies in soft agar, and they are  
non-tumorigenic in nude mice. We show here that, in addition to its  
anti-apoptotic effect, **p35** causes **transformation** of R508  
**cells**, as evidenced by the following: 1) decreased growth factor  
requirements, 2) ability to form foci in monolayer and colonies in soft  
agar, and 3) ability to form tumors in nude mice. Since R- **cells**  
**stably transfected** with **p35** do not **transform**, our  
observations suggest that in addition to its effect as an inhibitor of  
**apoptosis**, the baculovirus **p35** protein has **transforming**

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? d s5/9/5-20

Display 5/9/5 (Item 5 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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10943884 BIOSIS NO.: 199799565029

Baculovirus inhibitor of **apoptosis** functions at or upstream of the  
apoptotic suppressor **P35** to prevent programmed **cell** death.

AUTHOR: Manji Gulam A; Hozak Rebecca R; Lacount Douglas J; Friesen Paul D  
(a)

AUTHOR ADDRESS: (a)In Molecular Virol., Bock Lab., Univ.  
Wisconsin-Madison, 15 Linden Dr., Madison, WI 53706\*\*USA  
1997  
JOURNAL: Journal of Virology 71 (6):p4509-4516 1997  
ISSN: 0022-538X  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Members of the inhibitor of **apoptosis** (iap) gene family  
prevent programmed **cell** death induced by multiple signals in  
diverse organisms, suggesting that they act at a conserved step in the

-more-

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Display 5/9/5 (Item 5 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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apoptotic pathway. To investigate the molecular mechanism of iap  
function, we expressed epitope-tagged Op-iap, the prototype viral iap  
from Orgyia pseudotsugata nuclear polyhedrosis virus, by using novel  
baculovirus recombinants and **stably transfected** insect  
**cell** lines. Epitope-tagged Op-iap blocked both virus- and UV  
radiation-induced **apoptosis**. With or without apoptotic stimuli,  
Op-IAP protein (31 kDa) cofractionated with **cellular** membranes and  
the cytosol, suggesting a cytoplasmic site of action. To identify the  
step(s) at which Op-iap blocks **apoptosis**, we monitored the effect  
of Op-iap expression on in vivo activation of the insect CED-3/ICE death  
proteases (caspases). Op-iap prevented in vivo caspase-mediated cleavage  
of the baculovirus substrate inhibitor **P35** and blocked caspase  
activity upon viral infection or UV irradiation. However, unlike the  
stoichiometric inhibitor **P35**, Op-IAP failed to affect activated  
caspase as determined by in vitro protease assays. These findings provide  
the first biochemical evidence that Op-iap blocks activation of the host  
caspase or inhibits its activity by a mechanism distinct from **P35**.

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Moreover, as suggested by the capacity of Op-iap to block **apoptosis**  
induced by diverse signals, including virus infection and UV radiation,  
iap functions at a central point at or upstream from steps involving the  
death proteases.

#### DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; **Cell** Biology  
; Genetics; Infection; Microbiology; Pathology; Radiation Biology  
BIOSYSTEMATIC NAMES: Baculoviridae--Viruses; Lepidoptera--Insecta,  
Arthropoda, Invertebrata, Animalia  
ORGANISMS: baculovirus (Baculoviridae); Lepidoptera (Lepidoptera); Orgyia  
pseudotsugata nuclear polyhedrosis virus (Baculoviridae)  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; arthropods; insects;  
invertebrates; microorganisms; viruses  
MISCELLANEOUS TERMS: Research Article; APOPTOTIC SUPPRESSOR; IAP GENES;  
INHIBITOR OF **APOPTOSIS** GENES; IPL-SF21 **CELL** LINE; MOLECULAR  
GENETICS; PREVENTION; PROGRAMMED **CELL** DEATH; **P35**; UV

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DIALOG(R)File 5:Biosis Previews(R)  
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RADIATION; VIRAL DISEASE; VIRUS INFECTION  
CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal  
06506 Radiation-Radiation Effects and Protective Measures  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
12510 Pathology, General and Miscellaneous-Necrosis (1971- )  
31500 Genetics of Bacteria and Viruses  
33506 Virology-Animal Host Viruses  
36006 Medical and Clinical Microbiology-Virology  
32600 In Vitro Studies, Cellular and Subcellular

BIOSYSTEMATIC CODES:

02603 Baculoviridae (1993- )  
75330 Lepidoptera

- end of record -

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Display 5/9/6 (Item 6 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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09603198 BIOSIS NO.: 199598058116

Suppression of **apoptosis** in insect **cells** stably  
**transfected** with baculovirus **p35**: Dominant interference by  
N-terminal sequences **p35**-1-76.

AUTHOR: Cartier Jennifer L; Hershberger Pamela A; Friesen Paul D  
AUTHOR ADDRESS: Inst. Mol. Virol., Bock Lab., Univ. Wis.-Madison, 1525  
Linden Dr., Madison, WI 53706-1596\*\*USA  
1994

JOURNAL: Journal of Virology 68 (12):p7728-7737 1994

ISSN: 0022-538X

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Expression of **p35** from the DNA genome of Autographa  
californica nuclear polyhedrosis virus (AcMNPV) suppresses virus-induced

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Display 5/9/6 (Item 6 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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**apoptosis** and promotes virus replication in Spodoptera frugiperda  
(SF21) **cells**. To examine the molecular mechanism by which **p35**  
prevents **apoptosis** in insects, SF21 **cells** were stably  
**transfected** with **p35**. Neomycin-resistant **cell** lines  
that synthesized protein **p35** were identified. **Stable**  
**transfection** with **p35** protected SF21 **cells** from  
**apoptosis** induced by actinomycin D concentrations that caused  
apoptotic death of untransfected **cells**. **Cellular** expression  
of **p35** also blocked **apoptosis** induced by infection with  
**p35** null mutants and restored mutant replication to levels  
comparable to those of wild-type virus. In contrast, **stable**  
expression of the mammalian death suppressor bcl-2 failed to block  
actinomycin D- or AcMNPV-induced **apoptosis**. Thus, **p35** was  
sufficient to prevent **apoptosis**, whereas bcl-2 was not, suggesting  
that the activities of the two nonhomologous death regulators are  
functionally distinct. **Stable** expression of the truncation mutant  
**p35**-1-76 containing the N terminus of **p35**, failed to block

-more-

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Display 5/9/6 (Item 6 from file: 5)  
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**apoptosis**. However, **p35-1-76** interfered with **p35** antiapoptotic activity, since **stably transfected cells** underwent **apoptosis** upon infection with wild-type AcMNPV. Despite normal levels of viral **p35** transcription, **P35** levels were selectively reduced during infection. Thus, **p35-1-76** acted as a dominant inhibitor by directly or indirectly affecting the synthesis or stability of viral **P35**. These results suggested that the N terminus of **P35** constitutes a functional domain which is required to interact with other proteins, possibly host invertebrate death regulators or **P35** itself.

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology  
; Microbiology; Pathology; Physiology  
BIOSYSTEMATIC NAMES: Baculoviridae--Viruses; Lepidoptera--Insecta,  
Arthropoda, Invertebrata, Animalia  
ORGANISMS: Autographa californica nuclear polyhedrosis virus

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Display 5/9/6 (Item 6 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.  
(Baculoviridae); Spodoptera frugiperda (Lepidoptera)  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; arthropods; insects;  
invertebrates; microorganisms; viruses

CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10506 Biophysics-Molecular Properties and Macromolecules  
12510 Pathology, General and Miscellaneous-Necrosis (1971- )  
33506 Virology-Animal Host Viruses  
64076 Invertebrata, Comparative and Experimental Morphology, Physiology  
and Pathology-Insecta-Physiology  
03506 Genetics and Cytogenetics-Animal  
31500 Genetics of Bacteria and Viruses

BIOSYSTEMATIC CODES:

02603 Baculoviridae (1993- )  
75330 Lepidoptera

- end of record -

?

Display 5/9/7 (Item 7 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.

09040561 BIOSIS NO.: 199497048931

Expression of the baculovirus **p35** gene inhibits mammalian neural  
**cell** death.

AUTHOR: Rabizadeh S; Lacount D J; Friesen P D; Bredesen D E(a)

AUTHOR ADDRESS: (a)Dep. Neurology, UCLA Sch. Med., 710 Westwood Plaza, Los  
Angeles, CA 90024-1769\*\*USA

1993

JOURNAL: Journal of Neurochemistry 61 (6):p2318-2321 1993

ISSN: 0022-3042

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Expression of the **apoptosis** suppressor gene **p35**,  
derived from the baculovirus Autographa californica nuclear polyhedrosis

virus, markedly inhibited the cell death of stably

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Display 5/9/7 (Item 7 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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**transfected** mammalian neural **cells** whether the **cell** death was induced by glucose withdrawal, calcium ionophore, or serum withdrawal. The **p35** protein, which is required to block virus-induced **apoptosis** of cultured insect **cells**, is only the second gene product shown to block mammalian neural **cell** death, with Bcl-2 being the first. Because there is no apparent homology between **p35** and Bcl-2, the existence of a **cellular** death program that may be modulated at multiple points is suggested. Furthermore, these findings demonstrate that the putative **cellular** death program is conserved across species and **cell** types.

DESCRIPTORS:

MAJOR CONCEPTS: **Cell** Biology; Genetics; Microbiology; Nervous System (Neural Coordination); Pathology  
BIOSYSTEMATIC NAMES: Baculoviridae--Viruses; Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia  
ORGANISMS: rat (Muridae); Autographa californica nuclear polyhedrosis

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Display 5/9/7 (Item 7 from file: 5)  
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virus (Baculoviridae)  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; mammals; microorganisms; nonhuman mammals; nonhuman vertebrates; rodents; vertebrates; viruses

MISCELLANEOUS TERMS: **APOPTOSIS**

CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal  
12510 Pathology, General and Miscellaneous-Necrosis (1971- )  
20504 Nervous System-Physiology and Biochemistry  
31500 Genetics of Bacteria and Viruses  
33506 Virology-Animal Host Viruses

BIOSYSTEMATIC CODES:

02603 Baculoviridae (1993- )  
86375 Muridae

- end of record -

?

Display 5/9/8 (Item 1 from file: 154)  
DIALOG(R)File 154:MEDLINE(R)  
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10316861 20115142

Part I. Bcl-2 and Bcl-x(L) limit **apoptosis** upon infection with alphavirus vectors.

Mastrangelo AJ; Hardwick JM; Bex F; Betenbaugh MJ  
Department of Chemical Engineering, The Johns Hopkins University, 3400 North Charles Street, Baltimore, Maryland 21218, USA.  
Biotechnology and bioengineering (UNITED STATES) Mar 5 2000, 67 (5)  
p544-54, ISSN 0006-3592 Journal Code: A6N

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 0005

Subfile: INDEX MEDICUS

Viral expression systems offer the ability to generate high levels of a particular protein within a relatively short period of time. In particular, alphavirus constructs based on Sindbis virus (SV) and Semliki Forest virus (SFV) are promising vehicles as they are cytoplasmic vectors with the

-more-

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Display 5/9/8 (Item 1 from file: 154)  
DIALOG(R)File 154:MEDLINE(R)  
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potential for high expression levels. Two such alphavirus vectors were utilized during the current study to infect two commercially relevant cell lines, baby hamster kidney (BHK) and Chinese hamster ovary (CHO); the first was a fully competent SV derivative carrying the gene for chloramphenicol acetyltransferase (dssV-CAT), while the second was a replication deficient SFV construct containing the human interleukin-12 (IL-12) p35 and p40 genes (SFV-IL-12). Since infection with these vectors induced apoptosis in both cell lines, the present effort was dedicated to determining the ability of anti-apoptosis genes to limit the cell death associated with these virus constructs. Infection with the dssV-CAT vector resulted in the rapid death of BHK and CHO cells within 4 days, a phenomenon which was considerably delayed by stably overexpressing bcl-2 or bcl-x(L). In fact, cellular lifespans were doubled in both BHK-bcl2 and CHO-bclx(L) cells relative to the parental cell lines. Furthermore, the presence of these gene products provided increases of up to 2-fold in recombinant CAT production. Overexpression of bcl-2 and

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bcl-x(L) also altered the response of these cells upon infection with SFV-IL-12. While the parental cell lines were completely nonviable within 1 week, the BHK-bcl2, BHK-bclx(L), and CHO-bclx(L) cells each recovered from the infection, resuming exponential growth and regaining viabilities of over 90% by 9 days post-infection. Total IL-12 productivities were nearly doubled by Bcl-2 and Bcl-x(L) in the CHO cells, although this effect was apparently cell-line specific, as the native BHK cells were able to secrete more IL-12 than either of its transfected derivatives. Regardless, the presence of the anti-apoptosis genes allowed the production of IL-12 to be maintained, albeit at low levels, from each of the cell lines for the duration of the culture process. Therefore, overexpression of bcl-2 family members can have a significant impact on culture viabilities and recombinant protein production during alphavirus infections of mammalian cells. Copyright 2000 John Wiley & Sons, Inc.

Tags: Animal; Human; Support, U.S. Gov't, Non-P.H.S.

Descriptors: Apoptosis--Genetics--GE; \*Gene Transfer; \*Genes,

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DIALOG(R)File 154:MEDLINE(R)  
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bcl-2; \*Genetic Vectors; \*Proto-Oncogene Proteins c-bcl-2--Genetics--GE;  
Alphavirus; CHO Cells; Gene Expression Regulation; Hamsters  
CAS Registry No.: 0 (bcl-x protein); 0 (Genetic Vectors); 0  
(Proto-Oncogene Proteins c-bcl-2)

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Display 5/9/9 (Item 1 from file: 34)  
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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06023567 Genuine Article#: XQ112 Number of References: 25  
Title: **Stable transformation** of insect **cells** to coexpress  
a rapidly selectable marker gene and an inhibitor of **apoptosis**  
Author(s): McLachlin JR; Miller LK (REPRINT)  
Corporate Source: UNIV GEORGIA, DEPT ENTOMOL, 413 BIOL SCI  
BLDG/ATHENS//GA/30602 (REPRINT); UNIV GEORGIA, DEPT  
ENTOMOL/ATHENS//GA/30602; UNIV GEORGIA, DEPT GENET/ATHENS//GA/30602  
Journal: IN VITRO CELLULAR & DEVELOPMENTAL BIOLOGY-ANIMAL, 1997, V33, N7 (JUL-AUG), P575-579  
ISSN: 1071-2690 Publication date: 19970700  
Publisher: SOC IN VITRO BIOLOGY, 9315 LARGO DR WEST, STE 25, LARGO, MD 20774  
Language: English Document Type: ARTICLE  
Geographic Location: USA  
Subfile: CC LIFE--Current Contents, Life Sciences  
Journal Subject Category: DEVELOPMENTAL BIOLOGY; CELL BIOLOGY

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DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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Abstract: We have constructed several plasmid expression vectors to express foreign genes in **stably transformed** insect **cells**. Unlike baculovirus-based expression vectors by which genes of interest are expressed transiently before lysis of virus virus-infected **cells**, genes can be expressed continuously over many passages in a **stable cell** line. Furthermore, the function of a gene or genes expressed in a **stable cell** line from an insect-specific promoter that is constitutively expressed can be studied in the absence of virus infection and viral gene expression. In this study, we have expressed a novel, selectable marker gene, puromycin acetyltransferase, under the control of the Drosophila melanogaster hsp70 promoter or under the control of the AcMNPV ie-1 promoter which is active in Spodoptera frugiperda **cells** in the absence of virus infection. In addition, we have constructed expression vectors which coexpress two genes from separate promoters, the pac gene which confers resistance to puromycin and a baculovirus gene which inhibits **apoptosis**, derived from Orygia pseudotsugata nuclear

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polyhedrosis virus. Both genes were expressed in **stable** populations of S. frugiperda **cells** in the absence of continuous drug selection.  
Descriptors--Author Keywords: Spodoptera frugiperda **cells** ; puromycin acetyltransferase ; Drosophila hsp70 promoter ; dominant selectable marker ; **apoptosis**  
Identifiers--Keyword Plus(R): MAMMALIAN-CELLS; PUROMYCIN-RESISTANCE; BACULOVIRUS GENES; ENCODING GENE; EXPRESSION; PROMOTER; LINES; P35; ACETYLTRANSFERASE; SUPPRESSION  
Research Fronts: 95-2868 002 (BACULOVIRUS-INFECTED INSECT **CELLS**; AUTOGRAPHICA-CALIFORNICA NUCLEAR POLYHEDROSIS-VIRUS; EXPRESSION OF THE HUMAN INTERLEUKIN-2 RECEPTOR-GAMMA CHAIN)  
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DIALOG(R)File 71:ELSEVIER BIOBASE  
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00172752 95003777  
Suppression of **apoptosis** in insect **cells stably**  
**transfected** with baculovirus **p35**: Dominant interference by  
N-terminal sequences p35sup1sup -sup 7sup 6  
Cartier J.L.; Hershberger P.A.; Friesen P.D.  
ADDRESS: P.D. Friesen, Institute for Molecular Virology, Bock Laboratories,  
University of Wisconsin, 1525 Linden Dr., Madison, WI 53706-1596,  
United States  
Journal: Journal of Virology, 68/12 (7728-7737), 1994, United States  
PUBLICATION DATE: 19940000  
CODEN: JOVIA  
ISSN: 0022-538X  
DOCUMENT TYPE: Article  
LANGUAGES: English SUMMARY LANGUAGES: English

Expression of **p35** from the DNA genome of *Autographa californica*

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nuclear polyhedrosis virus (AcMNPV) suppresses virus-induced  
**apoptosis** and promotes virus replication in *Spodoptera frugiperda*  
(SF21) **cells**. To examine the molecular mechanism by which **p35**  
prevents **apoptosis** in insects, SF21 **cells** were **stably**  
**transfected** with **p35**. Neomycin-resistant **cell** lines that  
synthesized protein **P35** were identified. **Stable**  
**transfection** with **p35** protected SF21 **cells** from  
**apoptosis** induced by actinomycin D concentrations that caused  
apoptotic death of untransfected **cells**. **Cellular** expression of  
**p35** also blocked **apoptosis** induced by infection with **p35**  
null mutants and restored mutant replication to levels comparable to those  
of wild-type virus. In contrast, **stable** expression of the mammalian  
death suppressor bcl-2 failed to block actinomycin D- or AcMNPV-induced  
**apoptosis**. Thus, **p35** was sufficient to prevent **apoptosis**,  
whereas bcl-2 was not, suggesting that the activities of the two  
nonhomologous death regulators are functionally distinct. **Stable**  
expression of the truncation mutant p35sup 1sup -sup 7sup 6, containing the

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N terminus of **p35**, failed to block **apoptosis**. However, p35sup  
1sup -sup 7sup 6 interfered with **p35** antiapoptotic activity, since  
**stably transfected cells** underwent **apoptosis** upon  
infection with wild-type AcMNPV. Despite normal levels of viral **p35**  
transcription, **P35** levels were selectively reduced during infection.  
Thus, p35sup 1sup -sup 7sup 6 acted as a dominant inhibitor by directly or  
indirectly affecting the synthesis or stability of viral **P35**. These  
results suggested that the N terminus of **P35** constitutes a functional  
domain which is required to interact with other proteins, possibly host  
invertebrate death regulators or **P35** itself.

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